

**HOS 3281C**  
**Principles of Organic and Sustainable Crop Production**

3 credits

Fall Semester 2018

MWF Period 6, 12:50-1:40 PM

2316 Fifield

**INSTRUCTOR:** Dr. Xin Zhao  
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**OFFICE HOURS:** MW 1:40-2:30 pm. If you are unable to meet me at this time, feel free to email me to request an appointment.

**COURSE DESCRIPTION:** This course encompasses biological, social, and economic components of organic farming systems and sustainable agriculture. It emphasizes principles, concepts, and techniques of organic crop production and sustainable farming, including agroecology, sustainability, biodiversity, soil quality, nutrient and water management, crop rotation, cover cropping and other cultural practices, pest control, postharvest handling, food quality and safety, marketing of organic products, and organic agriculture policy and regulation.

**LEARNING OUTCOMES:**

Upon successful completion of this course, students will be able to:

- Analyze how a farm functions as an agroecosystem.
- Evaluate the sustainability of farming operations including organic production.
- Demonstrate a working knowledge of the regulatory procedures and requirements of certified organic production.
- Develop soil and nutrient management plans for organic and sustainable crop production that optimize nutrient cycling and minimize environmental degradation.
- Develop pest management plans that emphasize proactive systems approach and minimize curative control measures.
- Apply holistic management to farming system establishment and development that targets long-term sustainability.
- Critically evaluate strengths, weaknesses, opportunities, and threats for organic farming.
- Develop teamwork skills by designing and conducting field research project with peers.

**CLASS FORMAT:** Lectures, in-class discussion, demonstrations, videos, individual assignments, and class project.

**TEXTBOOK:** There are no required textbooks for this course. Book chapters, journal articles, websites, videos, and other materials will be collectively used. **E-learning** (<http://elearning.ufl.edu/>) is also used in this course to post lectures, assignments, reading materials, useful websites, video clips, study guides, and grades.

***Please note that having access to the materials posted on E-learning is not an excuse for missing classes- YOU WILL BE RESPONSIBLE FOR ANY ADDITIONAL MATERIALS PRESENTED IN CLASS!***

**CLASS PARTICIPATION:** At the beginning of every class, students will be chosen at random and asked to provide a 2-minute verbal summary of the previous lecture. Additionally, throughout the course there will be opportunities for students to ask or answer questions. Class interaction and class summaries will be graded out of 25 points according to the rubrics below. The sum of your class summary and class interaction scores will be used as your participation grade.

Participation frequency	Score	Participation quality	Score
Never	5	Poor	5
Rarely	10	Fair	10
Sometimes	15	Good	15
Often	20	Very good	20
Always	25	Excellent	25

**ASSIGNMENTS:** ALL the assignments should be submitted electronically to **E-learning**. They are expected to be in neat, legible format with grammar, punctuation, and spelling errors at a very minimum. Anything submitted after midnight of due date will NOT be acceptable and receive a score of zero.

**EXAMS:** Essays, matching, true/false, and multiple choice questions may be included in the #1, #2, and final exams. The exams will only cover materials directly presented or discussed during class unless otherwise noted. Under the circumstance of having a true emergency which does not allow the student to attend the original exam #1 or #2 as scheduled, a make-up exam can therefore be requested. Official written documents also need to be provided to the instructor about the emergency situation. The format of the make-up exam is at the instructor's discretion.

**GRADING:**

Activity	Points possible
Exam #1	100
Exam #2	100
Cumulative Final Exam	120
Quizzes (8 x 15 points)	120
Assignments (5 x 20 points)	100
Class Project	150
Class Participation	50

**Total points = 740**

All points earned in the course will be summed to calculate your final grade. Letter grades will be based on the performance of each student relative to the following standard percentages (%):

100-93	A	76-73	C
92-90	A-	72-70	C-
89-87	B+	69-67	D+
86-83	B	66-63	D
82-80	B-	62-60	D-
79-77	C+	59-00	E

Please feel free to discuss your grades with us at any time during the semester. Additional information on current UF grading policies for assigning grade points can be found here:

- *Grading policy*, [www.catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx](http://www.catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx)

## **COURSE POLICIES:**

### Attendance and Make-up Policy

You are encouraged to attend every lecture and complete quizzes and assignments by the posted deadlines. Absences will be excused and late assignments will be graded only for documented emergencies as per UF's attendance policy.

Additional information on class attendance and make-up exams, assignments and other work can be found here:

- *UF Attendance policy*, <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

### Technical Difficulties

If you are experiencing technical difficulties with Canvas, you should immediately contact the UF Help Desk. This will generate a ticket number, which documents the date and time of your technical difficulty. Any requests to make-up late work due to technical difficulties must be accompanied by this ticket number.

- *UF Help Desk*, HUB 132, (352) 392-4357, [www.lss.at.ufl.edu/help.shtml](http://www.lss.at.ufl.edu/help.shtml)

### Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action.

- For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>

### Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken when appropriate.

### Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

- *Disability Resource Center*, 0001 Reid Hall, (352) 392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

### Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *Counseling and Wellness Center*, 3190 Radio Road, (352) 392-1575, [www.counseling.ufl.edu](http://www.counseling.ufl.edu)
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching
- *U Matter We Care*, [www.umatter.ufl.edu](http://www.umatter.ufl.edu)

Additionally, if you would like orientation on choosing a major, finding an internship, or planning your career, we encourage you to use the university's on-campus resources.

- *Career Resource Center*, CR-100 Reitz Union, (352) 392-1601, <https://career.ufl.edu/>

### Course Evaluation Process

Student assessment of instruction is an important part of the effort to improve teaching and learning. At the end of the semester, you are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at:

- *Course evaluations*, [www.evaluations.ufl.edu](http://www.evaluations.ufl.edu)

Evaluations are typically open during the last two or three weeks of the semester. You will be notified of the specific times when evaluations for this course are open. Summary results of these assessments are available to students at:

- *Evaluations summary*, [www.evaluations.ufl.edu/results](http://www.evaluations.ufl.edu/results)

### Student Complaints

You can file and resolve any complaints about your experience in this course in the following site:

- *Written student complaints*, [www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](http://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)

**Tentative Lecture Schedule**  
**HOS 3281C – Principles of Organic and Sustainable Crop Production**  
**Fall 2018**

Week	Day	Date	Topic
1	W	Aug 22	Welcome, syllabus, course introduction and discussion
	F	Aug 24	The need for sustainable agriculture; Incubator Farm project introduction
2	M	Aug 27	How do we define and develop sustainable agriculture? Concepts, principles, and challenges
	W	Aug 29	Agroecology: science and foundation; Incubator Farm project discussion
	F	Aug 31	Applying agroecosystem principles to farming
3	M	Sept 3	<i>No class (Labor Day)</i>
	W	Sept 5	Organic agriculture overview: history, concepts, and regulations. Is organic farming sustainable? Incubator Farm project discussion
	F	Sept 7	Developing a business plan (Dr. Derek Farnsworth)
4	M	Sept 10	Organic agriculture growth and consumer trend; Incubator Farm project discussion
	W	Sept 12	What drives the foodies? (Dr. Mickie Swisher)
	F	Sept 14	Incubator Farm project work in the Teaching Garden
5	M	Sept 17	Organic certification and organic system plan
	W	Sept 19	Marketing organics and local foods (Dr. Allen Wysocki)
	F	Sept 21	Organic product export and import; International organic agriculture movement
6	M	Sept 24	Breeding for organic production; Organic agriculture research
	W	Sept 26	The living soil. Soil properties and processes: physical
	F	Sept 28	The living soil. Soil properties and processes: chemical
7	M	Oct 1	Review; Incubator Farm project discussion
	W	Oct 3	<b>Exam #1</b>
	F	Oct 5	The living soil. Soil properties and processes: biological
8	M	Oct 8	Enterprise budgets in farm financial planning (Dr. Derek Farnsworth)
	W	Oct 10	Soil health assessment
	F	Oct 12	The nutrient cycle: N
9	M	Oct 15	The nutrient cycle: C, P, and K
	W	Oct 17	Principles of soil quality and fertility management, NOP rules, organic fertilizers and calculations

	F	Oct 19	Incubator Farm project work in the Teaching Garden
10	M	Oct 22	Organic agriculture: Opportunities and challenges (Marty Mesh from FOG)
	W	Oct 24	Animal manure and compost
	F	Oct 26	Cover crop and green manure
11	M	Oct 29	Crop rotation and intercropping
	W	Oct 31	Review; Incubator Farm project discussion
	F	Nov 2	<i>No class (Homecoming)</i>
12	M	Nov 5	<b>Exam #2</b>
	W	Nov 7	Holistic management and tool boxes
	F	Nov 9	Integrated pest management; NOP regulations on insect, disease, and weed control
13	M	Nov 12	<i>No class (Veterans Day)</i>
	W	Nov 14	Case studies: Disease and pest management in organic crop production
	F	Nov 16	Case studies: Organic and sustainable weed management
14	M	Nov 19	Biotechnology and sustainable agriculture (Dr. Kevin Folta)
	W	Nov 21	<i>No class (Thanksgiving)</i>
	F	Nov 23	<i>No class (Thanksgiving)</i>
15	M	Nov 26	Incubator Farm project work in the Teaching Garden
	W	Nov 28	Organic livestock production NOP rules; Food quality and safety
	F	Nov 30	Maintaining the organic integrity; Value-added agriculture
16	M	Dec 3	Can organic agriculture feed the world? Building sustainable food systems
	W	Dec 5	Incubator Farm project showcase

**Cumulative Final Exam: Wednesday, Dec. 13, 2018, 3:00 – 5:00 PM**